DOCUMENT RESUME

ED 342 944 CE 060 503

TITLE	Exhibit and Analysis of 1990-91 Carl D. Perkins Research Project (Non-allocated II-B). Final Report.
INSTITUTION	Pittsburgh Public Schools, Pa.
SPONS AGENCY	Pennsylvania State Dept. of Education, Harrisburg. Bureau of Vocational and Adult Education.
PUB DATE	Jun 91
NOTE	81p.
PUB TYPE	Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	*Academic Education; Chi Square; Comparative Analysis; Course Selection (Students); Decision Making; *Educational Experience; Educational Research; *Employment Experience; Enrollment Influences; *General Education; Graduate Surveys; High School Graduates; High Schools; *Job Satisfaction; Postsecondary Education; Student Attitudes; *Vocational Education; Vocational Followup; Work Experience
IDENTIFIERS	Pittsburgh School District PA

ABSTRACT

A Pittsburgh School District study compared vocational, academic, and general students for the years 1983, 1986, and 1989. It collected information on secondary experience, postsecondary options, postsecondary education/training dropout and completion rates, employment history, geographic mobility, and income history. A specific question related to whether the respondent would still choose the same curriculum he/she had originally chosen. A literature review showed a need for more reliable and in-depth information concerning the secondary experience and immediate postsecondary options chosen. The data collection method was a telephone interview/mailed questionnaire process; the study population consisted of all graduated members (n=7,922) of the 1982, 1985, and 1988 graduating classes of the Pittsburgh Public Schools. Statistical analysis was through a three-way contingency table where classifications were years, curriculum chosen, and response to attitudinal questions. A chi-square analysis with 8 degrees of freedom was used for each year of the study. Regarding secondary experience of the 1,103 respondents, 52.2 percent were academic, 28.2 percent general, and 19.6 percent vocational. As for postsecondary options chosen, full-time work equaled almost 30 percent; full-time education and training equaled 57.3 percent. Postsecondary completers were 55.6 percent academic, 24.2 percent general, and 20.2 percent vocational. Postsecondary dropouts numbered 264. Overall, 59.6 percent of all respondents would definitely/probably take the same curriculum. One important trend over time was the substantial increase in those expressing a desire to repeat their vocational program. (Eighteen tables are provided. Instruments are appended.) (YLB)

PA91RE05
JUL 01 1991

ED342944

FINAL REPORT
83-1005

Exhibit and Analysis of 1990-91 Carl D. Perkins Research Project

(Non-allocated II - B)

Submitted to the Pennsylvania Department of Education

June, 1991

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Pittsburgh Public Schools
Division of Applied Technology and Career Development
635 Ridge Avenue
Pittsburgh, PA 15212-6099

CE 060 503

BEST COPY AVAILABLE

rec'd 7/3/91

ACKNOWLEDGEMENTS

The following individuals deserve recognition for their part in this endeavor - not any of the blame or criticism:

Dr. Fred A. Monaco, Director, Division of Applied Technology and Career Development for approving the project.

Dr. Paul G. LeMahieu, Director, Division of Research, Evaluation and Test Development for statistical analysis and guidance.

Mr. Brent P. Johnson, Program Facilitator, Division of Applied Technology and Career Development for records procurement.

The following individuals deserve recognition and/or blame and/or criticism:

Ms. Caryle Rosen, Researcher, Division of Applied Technology and Career Development.

Dr. William E. Cook, Research Project Director, Division of Applied Technology and Career Development

TABLE OF CONTENTS

PAGE

ACKNOWLEDGEMENTS i

CHAPTER I 1
INTRODUCTION 1
Purpose of Study 1
Questions to be Answered 2

CHAPTER II 3
REVIEW OF THE LITERATURE 3
Unanswered Questions 9
Need for this Study 9

CHAPTER III 10
RESEARCH DESIGN 10
General Method 10
Research Design 10
Data Collection Procedures 11
Selection of Subjects 12
Instrumentation 13
Data Collection 13
Treatment of Data 14

CHAPTER IV 15
PRESENTATION OF DATA AND ANALYSIS 15
Questions to be Answered 15
Local Research Question 35
Summary 41

CHAPTER V 42
DISCUSSION, IMPLICATIONS AND CONCLUSIONS 42
Discussion 42
Further Study 43
Implications 43
Conclusions 44

PAGE

APPENDIX A 47
DATA TABLES 47

APPENDIX B 49
DECISION MAKING MODEL 49

APPENDIX C 51
TELEPHONE INTERVIEW/QUESTIONNAIRE 51

APPENDIX D 54
GRADUATE SURVEY 54

APPENDIX E 56
GRADUATE LETTER 56

APPENDIX F 58
QUESTIONNAIRE 58

APPENDIX G 60
NCS ANSWER SHEET 60

APPENDIX H 62
NCS ANSWER SHEET EXPLANATION 62

BIBLIOGRAPHY 66

TABLES

	PAGE
TABLE 1	17
Special Education Category: Overall	17
TABLE 2	18
Special Education Category: Male	18
TABLE 3	19
Special Education Category: Female	19
TABLE 4	20
First Year After Graduation: Overall	20
TABLE 5	22
First Year After Graduation: Male	22
TABLE 6	23
First Year After Graduation: Female	23
TABLE 7	24
First Year After Graduation: Regular	24
TABLE 8	25
First Year After Graduation: Center for Advanced Studies (CAS)/Scholars . .	25
TABLE 9	26
First Year After Graduation: Learning Disabled/Socially and Emotionally Disadvantaged/Handicapped	26
TABLE 10	28
First Year After Graduation: Postsecondary Completion	28
TABLE 11	29
First Year After Graduation: Postsecondary Non-Completion	29
TABLE 12	31
Postsecondary Completers/Future Plans (Percent of Subset Responding)	31

PAGE

TABLE 13 32
First Year After Graduation: Income 32

TABLE 14 34
Geographic Mobility 34

TABLE 15 36
Data Table 36

TABLE 16 37
Data Table 37

TABLE 17 39
Data Table 39

TABLE 18 40
Course Frequencies By Program 40

Chapter I

INTRODUCTION

Many high school graduates of the 1980's and 1990's have chosen postsecondary options that do not seem to fit the curriculum they have chosen. Others follow in pathways that appear almost stereotypical looking at their high school experiences. In the 1990-91 Pennsylvania Department of Education Research Program (Title II, Part B), "a comparative analysis of vocational, academic and general students for the years 1983, 1986, and 1989" was undertaken. The School District of Pittsburgh was one of potentially six local education agencies who were chosen to undertake this Research Project. Part of the research emphasis did address issues such as the above, and part was directed to specific information required by the PDE Research Guidelines.

Purpose of Study

In addition to the PDE comparative analysis information collected, which included: student's secondary experiences; postsecondary options; postsecondary education/training dropout and completion rates; employment history; geographic mobility; and income history, the Pittsburgh School District sought to answer their own research question. In regards to the required comparative analysis, all groups identified were stratified on the following variables: sex; postsecondary dropouts; and regular, disadvantaged, or handicapped.

Questions to be Answered

Analysis was undertaken in sufficient depth to answer the following PDE research questions: 1) What were the secondary experiences of the students? 2) What postsecondary options were chosen by students? 3) What were the postsecondary education/training dropout and completion rates of the students? 4) What was the employment history of the students? and 5) What was the geographic mobility of the students? A final question, posed by the district, was: "Suppose you could go back to 9th grade and start over again; in view of your present knowledge, would you still choose the (academic - vocational - general) curriculum?"

CHAPTER II

REVIEW OF THE LITERATURE

This review of literature will be succinct and cover the main points of interest contained in the PDE guidelines. Various computer searches, including the ERIC system, as well as a manual search through the more recent educational research sources was undertaken. Key descriptors combined for searches included such terms as education work relationship; geographic mobility; migration; career choice; employment level; employment patterns; and occupational mobility. Postsecondary was a delimiter, as the interest was in secondary students' first year after graduation.

It is Glennan (1989) that sets the stage in his study of education and employment in the Greater Pittsburgh area. Some of his findings demonstrated that the largest source of training was employers, followed by the public school system. As others have also pointed out, employment trends in Western Pennsylvania have shifted to services, rather than manufacturing, with most people employed in small companies. Pittsburgh's population is losing young people, and has a declining number of working age people. Glennan reports that 80% of elementary and secondary students are found in the small districts outside of Pittsburgh.[1]

---

[1]Glennan, Thomas K., Jr. and others (1989). "Education, Employment, and the Economy. An Examination of Work-Related Education in Greater Pittsburgh" (ED 320 035), ERIC Document Resumes.

Hotchkiss (1984) found that students who took additional vocational courses had a higher rate of success in the job market immediately after high school, while the total amount of all course work (vocational and academic) was only moderately associated with greater job market success. The three items that improved students' post-high school earnings were vocational education, work experience in high school, and instruction in basic skills.[2]

Similarly, Ghazakah (1987) found that overall, vocational graduates tended to have higher incomes and lower unemployment rates for the first five years after graduation.[3] Disagreeing somewhat with these findings, however, Pike (1988) reported that respondents rated employment preparation for students who were not continuing their education after high school lower than other aspects of the instructional program.[4] Pike's research was in the Los Angeles area and perhaps it speaks to differences in educational delivery systems.

---

[2]Hotchkiss, Lawrence and others (1984). "High School Preparation for Employment" (ED 297 158), ERIC Document Resumes.

[3]Ghazalah, I.A. (1987). "Long Term Follow-up of Vocational Graduates: A Study Based on Federal Income Tax Data" (ED 282 044), ERIC Document Resumes.

[4]Pike, Daniel W. and others (1988). "Basic Activities Surveys: Parent and Staff Opinions about the LAUSD Instructional Program, Spring 1987, Publication No. 520" (ED 311 133), ERIC Document Resumes.

The Connecticut Department of Education (1988) states that their 1987 graduates demonstrated the highest percentage ever for both continuing their education and for going onto a four year college or university.[5] These first three studies above, underline the differences along the spectrum of postsecondary options - especially when different parts of the country are reviewed.

In New York, Bishop (1988) says that his research shows that occupationally specific education positively influences job market success when training-related jobs were obtained. Furthermore, passing this training onto employers or postsecondary learning institutions, adversely affects dropout prone students who may only find success with training of the sort found in high school.[6]

In a one year follow-up study of high school graduates in Michigan (1987) researchers found that about 42% of graduates were enrolled in some kind of full-time education, and 10.8% were unemployed. Employed graduates most often worked in unskilled positions. Seventy-two point nine per cent of the respondents felt that they were following their education plans.[7]

---

[5]Connecticut State Department of Education, Hartford (1988). "High School Graduate Follow-up Report, June 1987 Graduates" (ED 303 532), ERIC Document Resumes.

[6]Bishop, John (1988). "Occupational Training in High School: When Does It Pay Off? Working Paper #88-09" (ED 300 884), ERIC Document Resumes.

[7]Saginaw Public Schools, Michigan Department of Evaluation Services (1987). "Follow-up Study of 1986 Graduates, Evaluation Reports" (ED 292 850), ERIC Document Resumes.

In another study by Hotchkiss (1984), evidence suggests that deviance (behavior problems) during high school had little or no effects on employment experience just after leaving high school. Attitudes had stronger effects than deviance. He also discovered that counseling services did not demonstrate a consistent pattern of helping students in the school-work transition.[8]

Bishop (1985) in comparing 1972 and 1980 high school graduates in the labor market, reports that hours spent on a job during 12th grade were an important predictor of early job success. A better academic record was, however, generally rewarded in the job market. Most importantly, the greater emphasis on academic credit hours was related negatively to wage rates, employment, and earnings. In short, the vocational program had a positive effect in the immediate labor market for these graduates.[9]

Some of the results Kang (1984) found in his study on vocational curriculum graduates show that men earned more than women, while trade and technical or any vocational course except business and sales had a large positive effect on men, but virtually none on women.[10]

---

[8]Hotchkiss, Lawrence (1984). "Post High School Labor Market Outcomes and Schooling" (ED 275 892), ERIC Document Resumes.

[9]Bishop, John and others (1985). "High School Graduates in the Labor Market: A Comparison of the Class of 1972 and 1980" (ED 262 328), ERIC Document Resumes.

[10]Kang, Suk and Bishop, John (1984). "The Effect of Curriculum on Labor Market Success Immediately after High School" (ED 259 118), ERIC Document Resumes.

In the Follow-up Survey of 1983 graduates in California (1984), approximately 75% indicated that they were enrolled in a school or college during the fall or winter, while 49% were employed and about 16% were unemployed. Those respondents who were working included 62% who were also attending some form of postsecondaray schooling.[11]

In another follow-up study of graduates in Illinois, over half had wished they had taken more math; 38% wished they had taken more science. Vocational courses were perceived as useful by both vocational and nonvocational students who took courses in the vocational curriculum.[12]

In summation, this review of literature presents a mixed report on the state of secondary programs and immediate aspirations of high school graduates. Of course, sampling error can create conflicts in the finds of separate studies on the same topic. Research design, and types of subjects also can show differences in otherwise similar studies.[13] Yet, this review resulted in a good deal of consensus

---

[11]California State Postsecondary Education Commission, Sacrameno (1984). "The First Follow-up Survey of the High School Class of 1983. A Staff Report from the 1983 Eligibility Study on Post-High School Activities of High School Graduates, Commission Report 84-25" (ED 258 535), ERIC Document Resumes.

[12]Owens, Thomas R. (1985). "Views Three Years Later: Results of a Statewide High School Follow-up Study" (ED 255 732), ERIC Document Resumes.

[13]Harold E. Mitzel, Editor in Chief, (1982), Encyclopedia of Educational Research, Fifth Edition, (pp.1613-1614), New York: The Free Press.

being demonstrated. For example, some researchers found that students taking vocational courses had higher success rates in the job market, especially in the time immediately after graduation.

In the first five years after high school graduation, these same vocationally educated students had lower unemployment rates. Other researchers found an increasing trend towards an immediate entrance into postsecondary education. Another study pointed out that those employed after high school were in unskilled positions, although several studies point to a mix of employment and either training or education, thus adding another dimension. Hence, students may be employed in unskilled jobs while acquiring the necessary credentials to enter a higher level of the job market.

An issue of concern to many, counseling services did not help in the job to work transition. This lack of effort can also be directed to a lower than expected level of jobs filled by secondary vocational graduates. Studies continue to indicate that sex bias is still found in the trade, industrial, and technical areas. And lastly, one study addressed the area of how much additional mathematics and science a student wished they would have taken in high school. This last finding relates to the local research question within this study. Interestingly, this same research piece pointed out that, in retrospect, both vocational and nonvocational graduates perceived the usefulness of vocational courses within their lives.

Unanswered Questions

The concern is that more reliable and in-depth information is needed concerning the secondary experience and the immediate postsecondary options chosen by students. When enough reliable information is made available to secondary administrators and counselors relative to curricula, and the graduate to work/education/training transition, the delivery system for students can be improved and expanded to best meet the needs of today's technical, global economy.

Need for this Study

The specific type of investigation in this study was necessary to add to the substantive understanding of how a student proceeds from high school graduation to the world of work. The perceived immediate result is that a greater level of information will be made available to secondary educators. The long term result is that educators will be better able to serve their clientele.

CHAPTER III

RESEARCH DESIGN

General Method

This chapter describes the research procedures used in this study. First, the list of acquired PDE statistics as defined by the Research Guidelines, was given. Secondly, a chi-square analysis was undertaken with the local research question. As such, statistically significant results were sought, for the purpose of use by concerned personnel for improvement of the secondary school experience.

Research Design

The local research question was asked so as to gather information regarding program development and modification in the Pittsburgh Public School System. The reported sample data representing the local research question constituted a three way contingency table (See Appendix A for model) where classifications are years, curriculum chosen, and response to the attitudinal question (five possibilities). A chi-square analysis with 8 degrees of freedom at the 0.10 level of significance was used for each year of study. It was interesting to compare the differences/similiarities among the three years, as this indicated changes through time. All PDE required variables are presented with raw scores and appropriate measures of central tendency, and stratified as indicated in the PDE Research Guidelines.

Data Collection Procedures

Data collection involved a telephone interview/mailed questionnaire process. A Decision Making Model illustrating these procedures is contained in Appendix B. The following chronological list is presented to show how the collection of data proceeded.

1. Conduct first and if necessary, second telephone interview. (See Appendix C for Telephone Interview Form) Time period: September 1, 1990 through December 20, 1990.

2. Send, when necessary, first and second questionnaire. (See Appendix D and E for Cover Letter and Questionnaire) Time period: January 3, 1991 through February 28, 1991.

3. Collate all data reported. Time period: March 1, 1991 through March 31, 1991.

4. Analyze collected data using appropriate statistical methods and reporting significant determinations on local research question. Time period: April 1, 1991 through May 30, 1991.

5. Present data through a scholarly analysis of all critical components of this research, including PDE required statistics and local research question. Time period: June 1, 1991 through June 21, 1991.

Interestingly, Bell (1987) reported that in a similar study, the research methodology was to administer questionnaires by mail first. Non-respondents were then contacted by telephone. Approximately 74% of his target students responded, although the study only sought graduates from two years before.[14]

Similarily, Sebring (1987) contacted about 66% of the target audience using mail-back questionnaires first, followed by telephone and personal interviews for those not responding by mail.[15]

Selection of Subjects

The population included all graduated members (N = 7922) of the 1982, 1985, and 1988 graduating classes of the Pittsburgh Public Schools. The population included 3889 males and 4033 females. The percentage of Black graduates increased from 40.2% in 1982, to 42% in 1985, and 44% in 1988. All other statistics on this population will be presented in Chapter 4.

---

[14] Bell, Peter D. (1987). "Graduate Follow-up Study: Phase II, San Diego City Schools' Class of 1984 Two Years After Graduation" (ED 299 270), ERIC Document Resumes.

[15] Sebring, Penny and others (1987). "High School and Beyond, Third Follow-up (1986). Technical Report 1986" (ED 300 464), ERIC Document Resumes.

Instrumentation

The telephone interview was used to gather the information sought by the PDE and the local school district. When telephone contact was not made after two attempts, a mailed questionnaire was sent; if the questionnaire was not returned, a second one was sent. The Final Recording Instrument used in this study is contained in Appendix F. From this instrument the NCS "bubble sheet" was filled out (Appendix G). An expansion of the various data sets is contained in Appendix H.

Data Collection

The data collection was via a telephone interview/mailed questionnaire technique. Information on year graduated and gender came from student records. Whether the student was in the Academic, General, or Vocational Program was reported by the student. The student's Special Education Category came from the Statistics Section Office. What the student did upon graduation in regards to employment, training or education, postsecondary completion, income, and geographic mobility, and the local research question, were answered via the interview or the questionnaire.

Treatment of Data

Statistical analysis of data was through a three way contingency table where classifications are years, curriculum chosen, and response to attitudinal question (five possibilities). A chi-square analysis with 8 degrees of freedom (# of rows - 1) X (# of columns - 1) at the 0.10 level of significance was used for each year of study. Differences/similiarities among the three years was also looked at to indicate any change through time. All PDE required variables are presented with raw scores and appropriate measures of central tendency, and stratified according to PDE Research Guidelines.

CHAPTER IV

PRESENTATION OF DATA AND ANALYSIS

Introduction

The statistical information presented in this chapter was processed in raw form and summarized through the SPSS-X System for the Data General MV/4000 system, release 2.2, School District of Pittsburgh, 24 May 1991.

Questions to be Answered

The questions answered included secondary expectations of students, postsecondary options chosen, postsecondary dropout/completion rates, employment history, and geographic mobility. These were stratified on the variables of sex, postsecondary dropouts, and whether they were regular, disadvantaged, or handicapped. Economically disadvantaged determination was weaker than anticipated, as the school district's Chapter I records were not maintained until recently.

The first question: What were the secondary expectations of the students? can be answered by stating that out of the 1,103 respondents making up the sample, 52.2% were Academic, 28.2% General, and 19.6% Vocational. Fifty-six per cent were female, and included 485 regular students, 118 scholars/CAS students, and 13 handicapped/educationally disadvantaged.

Table 1 delineates all special education categories associated with the respondents while they were in high school. This information came from the district's Student Tracking and Record System files. Categories were either Full Time (FT) or Part Time (PT) and potentially included all categories as listed in Appendix H. As expected the majority of respondents were identified as having no special education label. Looking at Table 2 and 3, the breakdown of special education categories is done by male and female. Comparing these values to ones the school district has maintained for several years, indicates a typical mix of curricula and special education needs for this sample. The secondary expectations for the group were also considered typical for this school district.

The second question: What postsecondary options were chosen by students? include information contained in Tables 4 through 9. Thus, the First Year After Graduation is broken down into overall values, male, female, regular, CAS/Scholars, and Handicapped/Educationally Disadvantaged. Options included all possible combinations of full time and part time work, education, training, as well as armed services, and unemployed.

Looking at Table 4, it is interesting to note that all values of FT WORK equal almost 30%, while all values of FT ED (leading to an Associate Degree or higher) and FT TRAIN (leading to a postsecondary certificate) equal 57.3% of respondents. FT ED alone accounted for almost 50% of the sample. Some overlap is unavoidably reported when looking at these Full Time categories.

TABLE 1

SPECIAL EDUCATION CATEGORY: OVERALL

Value Label	Frequency	Valid Percent	Cum Percent
FT EMR	1	.1	.1
PT EMR	8	.7	.8
PT GIFTED	1	.1	.9
FT CAS	128	11.6	12.5
PT SED	1	.1	12.6
FT B INJ	3	.3	12.9
FT DEAF	1	.1	13.0
FT P HAN	1	.1	13.1
PT LD	12	1.1	14.1
FT MIX	1	.1	14.2
FT SCH NR	66	6.0	20.2
NONE	880	79.8	100.0
TOTAL	1103	100.0	

TABLE 2

SPECIAL EDUCATION CATEGORY: MALE

Value Label	Frequency	Valid Percent	Cum Percent
PT EMR	3	.6	.6
FT CAS	52	10.9	11.5
FT B INJ	2	.4	11.9
FT P HAN	1	.2	12.1
PT LD	8	1.7	13.8
FT SCH NR	25	5.2	19.0
NONE	388	81.0	100.0
TOTAL	479	100.0	

TABLE 3

SPECIAL EDUCATION CATEGORY: FEMALE

Value Label	Frequency	Valid Percent	Cum Percent
FT EMR	1	.2	.2
PT EMR	5	.8	1.0
PT GIFTED	1	.2	1.1
FT CAS	76	12.5	13.6
PT SED	1	.2	13.8
FT B INJ	1	.2	14.0
FT DEAF	1	.2	14.1
PT LD	4	.7	14.8
FT SCH NR	41	6.7	21.5
NONE	478	78.5	100.0
TOTAL	609	100.0	

TABLE 4

FIRST YEAR AFTER GRADUATION: OVERALL

Value Label	Frequency	Valid Percent	Cum Percent
FT WORK	246	22.7	22.7
PT WORK	86	7.9	30.6
FT ED	328	30.2	60.8
PT ED	7	.6	61.4
FT TRAIN	40	3.7	65.1
PT TRAIN	2	.2	65.3
FT WORK & FT ED	35	3.2	68.5
FT WORK & PT ED	35	3.2	71.7
PT WORK & FT ED	174	16.0	87.8
PT WORK & PT ED	33	3.0	90.8
FT TRAIN & FT WORK	3	.3	91.1
FT TRAIN & PT WORK	42	3.9	94.9
PT TRAIN & FT WORK	3	.3	95.2
PT TRAIN & PT WORK	6	.6	95.8
ARMED SERVICE	25	2.3	98.1
UNEMPLOYED	10	.9	99.0
TOTAL	1103	100.0	

In Table 5, all values of FT WORK for males was a little more than 33% while FT ED values equaled 48.1%. Table 6 indicated that FT WORK values for females was 26.6% and FT ED values were a little over 50%. More males were working full time than females, yet both groups placed roughly the same emphasis on full time education.

All FT WORK values for regular students are reported in Table 7. About 1/3 of the respondents were in this category, while 41.6% reported FT ED. Table 8 reported values for the first year after graduation for CAS and scholars' graduates. Interestingly there were no graduates communicating responses in the FT TRAIN and the FT WORK categories. Not surprisingly, as one would anticipate, there is a definite emphasis on postsecondary education with this group, as only 9.7% indicated they were involved in full time work. Overall, 85% did indicate FT ED. In Table 9 the special education group did not report any one as FT WK & PT ED; FT WORK & FT TR; and PT TR & FT WORK. The group was equally divided (44.4% in each) for all categories of FT WORK and FT ED.

TABLE 5

FIRST YEAR AFTER GRADUATION: MALE

Value Label	Frequency	Valid Percent	Cum Percent
FT WORK	120	25.5	25.5
PT WORK	32	6.8	32.3
FT ED	141	29.9	62.2
PT ED	2	.4	62.6
FT TRAIN	10	2.1	64.8
PT TRAIN	2	.4	65.2
FT WORK & FT ED	18	3.8	69.0
FT WORK & PT ED	18	3.8	72.8
PT WORK & FT ED	68	14.4	87.3
PT WORK & PT ED	14	3.0	90.2
FT TRAIN & FT WORK	2	.4	90.7
FT TRAIN & PT WORK	12	2.5	93.2
PT TRAIN & FT WORK	1	.2	93.4
PT TRAIN & PT WORK	2	.4	93.8
ARMED SERVICE	24	5.1	98.9
UNEMPLOYED	4	.8	99.8
NOT AVAIL FOR WORK	1	.2	100.0
TOTAL	479	100.0	

TABLE 6

FIRST YEAR AFTER GRADUATION: FEMALE

Value Label	Frequency	Valid Percent	Cum Percent
FT WORK	124	20.6	20.6
PT WORK	53	8.8	29.4
FT ED	182	30.2	59.6
PT ED	4	.7	60.3
FT TRAIN	29	4.8	65.1
FT WORK & FT ED	16	2.7	67.8
FT WORK & PT ED	17	2.8	70.6
PT WORK & FT ED	104	17.3	87.9
PT WORK & PT ED	19	3.2	91.0
FT TRAIN & FT WORK	1	.2	91.2
FT TRAIN & PT WORK	30	5.0	96.2
PT TRAIN & FT WORK	2	.3	96.5
PT TRAIN & PT WORK	4	.7	97.2
ARMED SERVICE	1	.2	97.3
UNEMPLOYED	6	1.0	98.3
NOT AVAIL FOR WORK	10	1.7	100.0
TOTAL	609	100.0	

TABLE 7

FIRST YEAR AFTER GRADUATION: REGULAR

Value Label	Frequency	Valid Percent	Cum Percent
FT WORK	232	26.8	26.8
PT WORK	81	9.4	36.2
FT ED	198	22.9	59.1
PT ED	5	.6	59.7
FT TRAIN	31	3.6	63.2
PT TRAIN	2	.2	63.5
FT WORK & FT ED	22	2.5	66.0
FT WORK & PT ED	32	3.7	69.7
PT WORK & FT ED	140	16.2	85.9
PT WORK & PT ED	29	3.4	89.2
FT TRAIN & FT WORK	3	.3	89.6
FT TRAIN & PT WORK	39	4.5	94.1
PT TRAIN & FT WORK	2	.2	94.3
PT TRAIN & PT WORK	6	.7	95.0
ARMED SERVICE	24	2.8	97.8
UNEMPLOYED	10	1.2	99.0
TOTAL	880	100.0	

TABLE 8

FIRST YEAR AFTER GRADUATION:
CENTER FOR ADVANCED STUDIES (CAS)/SCHOLARS

Value Label	Frequency	Valid Percent	Cum Percent
FT WORK	6	3.1	3.1
PT WORK	4	2.1	5.2
FT ED	126	64.9	70.1
PT ED	1	.5	70.6
FT TRAIN	6	3.1	73.7
FT WORK & FT ED	9	4.6	78.4
FT WORK & PT ED	3	1.5	79.9
PT WORK & FT ED	30	15.5	95.4
PT WORK & PT ED	4	2.1	97.4
FT TRAIN & PT WORK	3	1.5	99.0
PT TRAIN & FT WORK	1	.5	99.5
ARMED SERVICE	1	.5	100.0
TOTAL	195	100.0	

TABLE 9

FIRST YEAR AFTER GRADUATION:
LEARNING DISABLED/SOCIALLY AND EMOTIONALLY DISADVANTAGED/HANDICAPPED

Value Label	Frequency	Valid Percent	Cum Percent
FT WORK	8	29.6	29.6
PT WORK	1	3.7	33.3
FT ED	4	14.8	48.1
PT ED	1	3.7	51.9
FT TRAIN	3	11.1	63.0
FT WORK & FT ED	4	14.8	77.8
PT WORK & FT ED	4	14.8	92.6
NOT AVAIL FOR WORK	2	7.4	100.0
TOTAL	28	100.0	

The third question: What were the postsecondary education/training dropout and completion rates of the students? is answered in part with the following statistics, and Table 10. This table shows the total number of postsecondary completers identified by their postsecondary activity the first year after graduation. Moreover, 56.9% were males, while 72.8% of completers were 1982 and 1985 graduates. The curriculum breakdown included 55.6% Academic, 24.2% General, and 20.2% Vocational. Of the total, 28.3% were categorized as Special Education in any category except "Regular". The completers, when asked if they wanted to continue their postsecondary education/training, responded for the most part (58.8%) that they intended to continue either education or training. Perhaps the level they had completed was insufficient to acquire, maintain, or advance in employment, hence the desire to continue.

Looking at postsecondary dropouts, a total of 264 respondents indicated that they did not complete their postsecondary education/training. Of these 264, 52 individuals were in the 1982 group, 54 in 1985, and 158 in the 1988 class. There were almost an equal number of male and female, with 140 female and 124 male. This group represented 103 Academic, 96 General, and 65 Vocational graduates. Looking at Table 11, the breakdown according to activity during the first year is recorded for postsecondary non-completers. Thirty-seven per cent of this subgroup reported some value of FT WORK, while 46.1% reported some form of FT ED.

TABLE 10

FIRST YEAR AFTER GRADUATION:
POSTSECONDARY COMPLETION

Value Label	Frequency	Valid Percent	Cum Percent
FT WORK	43	12.0	12.0
PT WORK	11	3.1	15.0
FT ED	124	34.5	49.6
PT ED	3	.8	50.4
FT TRAIN	33	9.2	59.6
PT TRAIN	1	.3	59.9
FT WORK & FT ED	16	4.5	64.3
FT WORK & PT ED	12	3.3	67.7
PT WORK & FT ED	48	13.4	81.1
PT WORK & PT ED	10	2.8	83.8
FT TRAIN & PT WORK	35	9.7	93.6
PT TRAIN & FT WORK	3	.8	94.4
PT TRAIN & PT WORK	4	1.1	95.5
ARMED SERVICE	13	3.6	99.2
UNEMPLOYED	2	.6	99.7
NOT AVAIL FOR WORK	1	.3	100.0
TOTAL	364	100.0	

TABLE 11

FIRST YEAR AFTER GRADUATION:
POSTSECONDARY NON-COMPLETION

Value Label	Frequency	Valid Percent	Cum Percent
FT WORK	74	28.4	28.4
PT WORK	33	12.6	41.0
FT ED	43	16.5	57.5
PT ED	4	1.5	59.0
FT TRAIN	6	2.3	61.3
PT TRAIN	1	.4	61.7
FT WORK & FT ED	8	3.1	64.8
FT WORK & PT ED	13	5.0	69.7
PT WORK & FT ED	38	14.6	84.3
PT WORK & PT ED	14	5.4	89.7
FT TRAIN & FT WORK	2	.8	90.4
FT TRAIN & PT WORK	6	2.3	92.7
PT TRAIN & PT WORK	1	.4	93.1
ARMED SERVICE	5	1.9	95.0
UNEMPLOYED	5	1.9	96.9
NOT AVAIL FOR WORK	8	3.1	100.0
TOTAL	264	100.0	

It would seem that the group still involved in FT ED could either be dropouts, or are expressing the fact that they are not yet finished with their postsecondary education/training.

Table 12 records all responses for the subset of postsecondary completers/non-completers and their future plans by overall, female, male, regular, scholars, and special education. The highest number of completers for the first year was the special education group. Forty-eight point four per cent of scholars reported as completers in the first year, with 76.4% planning on continuing with their training/education. Little difference is noted between male and female and regular in these responses, as the major shifts in trends are seen in the scholars and special education groups.

Question 4: What was the employment history of the students? is viewed as how much weekly income was made the first year after secondary graduation. Means and medians for the groups listed in Table 13 are given. Males averaged higher than females, with postsecondary non-completers as the highest group. Scholars, already established as in FT ED for the most part, made the least, with an average of $44.30 per week. Interestingly, the special education group averaged a little more than females, as a group. The monthly income data combined with other data already presented, give an efficacious statement regarding the overall income history for the graduates the first year after graduation.

TABLE 12

POSTSECONDARY COMPLETERS/FUTURE PLANS
(PERCENT OF SUBSET RESPONDING)

	COMPLETED			PLANS		
	NO	YES	IN SCHOOL	NO	YES	UNDEC.
OVERALL	28.8	39.7	31.5	15.3	63.0	21.6
FEMALE	27.8	40.3	31.9	15.9	60.6	23.5
MALE	30.3	38.3	31.3	14.6	66.2	19.2
REGULAR	33.1	36.8	30.0	16.4	60.4	23.2
SCHOLARS	12.9	48.4	38.7	8.4	76.4	15.2
LD/SED/HCAP	22.7	59.1	18.2	28.6	53.6	17.9

TABLE 13

FIRST YEAR AFTER GRADUATION: WEEKLY INCOME

GROUP	MEAN	MEDIAN
OVERALL	$ 90.77	$ 74.00
FEMALE	82.85	70.00
MALE	100.94	84.00
REGULAR	101.34	90.00
SCHOLARS	44.30	---
LD/SED/HCAP	84.00	49.50
POSTSECONDARY NON-COMPLETERS	102.86	100.00

Geographic Mobility (Table 14), was predetermined to be recorded as: remaining in Pittsburgh; Allegheny County; Western Pennsylvania; or anywhere outside Pennsylvania during the first year, and second year after graduation. This table of information is in response to the final PDE question: What was the geographic mobility of the students? Looking at differences between years, most groups remained relatively unchanged. The one exception is, Postsecondary Non-Completers, who perhaps had to travel farther to seek employment or training. Within the first year the majority of students remained in Pittsburgh, with the exception of the Scholars group. These respondents had reported (additionally to what was asked) that they were attending colleges and universities that were outside of Pittsburgh and Allegheny County for the most part. Otherwise, the scholars group had little change between the first and second years. The special education group had a small movement from Pittsburgh to Allegheny County in the second year. Otherwise, this group was the most stable one in terms of geographic mobility.

TABLE 14

GEOGRAPHIC MOBILITY

	OVERALL	FEMALE	MALE	REGULAR	SCHOLARS	LD/ SED/HCAP	POSTSEC. NON-COMP.
FIRST YEAR	(PERCENT OF TOTAL SAMPLE RESPONDING)						
PITTSBURGH	66.5	67.2	66.2	72.0	39.7	82.1	78.2
ALLEG. CO.	6.7	7.0	5.9	7.1	5.2	3.6	6.5
WESTERN PA.	11.2	11.4	10.9	8.7	23.2	3.6	7.6
OUTSIDE PA.	15.6	14.4	17.0	12.1	32.0	10.7	7.6
SECOND YEAR							
PITTSBURGH	65.9	67.5	64.2	70.7	43.1	78.6	77.5
ALLEG. CO.	7.2	7.6	6.3	7.7	5.1	7.1	6.5
WESTERN PA.	10.3	10.0	10.7	8.1	21.0	3.6	6.9
OUTSIDE PA.	16.6	14.9	18.9	13.6	30.8	10.7	9.2

Local Research Question

The local research question: Suppose you could go back to 9th grade and start over again; in view of your present knowledge, would you still choose the (academic - vocational - general) curriculum? was researched and analyzed. The following results are referenced to the Null Hypotheses: The distribution of attitudinal responses is independent of the curriculum chosen, that is, academic, vocational, and general students all feel the same way with regard to the question.

Reviewing Table 15 for the response summary from the 1982 graduates, a Chi-Square of 40.32572 with 8 degrees of freedom was calculated. With this value, confidence is high that the Null Hypothesis may be rejected. Gauging a measure of the relative degree of satisfaction by combining the percentage of responses for "Definitely Would" and "Probably Would", some interesting inclinations appear. In 1982, 64.8% of academic graduates would likely repeat their decision to be in the academic curriculum. Thirty-seven percent would take general education again, while only 25.9% would repeat the vocational curriculum.

In the 1985 results (Table 16), the Chi-Square was 51.68644 with 8 degrees of freedom. With this value, confidence is high that the Null Hypothesis may also be rejected for this group. Using the same gauge as above, it was found that 77.4% of academic graduates would repeat their curriculum decision; 48.8% of vocational graduates would repeat their decision to be in the vocational curriculum; and only 30.8% would repeat the general curriculum.

TABLE 15

DATA TABLE (3 X 3 X 5) on
HIGH SCHOOL GRADUATE WILLINGNESS TO REPEAT CHOSEN CURRICULUM
(Academic, Vocational, General) for
1982 GRADUATES

		ACADEMIC	GENERAL	VOCATIONAL	TOTAL
1982					
Certainly would repeat	n	45	8	6	59
	%	36.9	8.5	19.4	23.9
Probably would repeat	n	34	27	2	63
	%	27.9	28.7	6.5	25.5
Chances are about even	n	13	16	4	33
	%	10.7	17.0	12.9	13.4
Probably would not repeat	n	20	19	11	50
	%	16.4	20.2	35.5	20.2
Certainly would not repeat	n	10	24	8	42
	%	8.2	25.5	25.8	17.0
COLUMN TOTAL		122	94	31	247
		49.4	38.1	12.6	100.0

TABLE 16

DATA TABLE (3 X 3 X 5) on
HIGH SCHOOL GRADUATE WILLINGNESS TO REPEAT CHOSEN CURRICULUM
(Academic, Vocational, General) for
1985 GRADUATES

		ACADEMIC	GENERAL	VOCATIONAL	TOTAL
1985					
Certainly would repeat	n	61	16	14	91
	%	49.2	17.6	28.0	34.3
Probably would repeat	n	35	12	10	57
	%	28.2	13.2	20.0	21.5
Chances are about even	n	7	14	3	24
	%	5.6	15.4	6.0	9.1
Probably would not repeat	n	13	22	12	47
	%	10.5	24.2	24.0	17.7
Certainly would not repeat	n	8	27	11	46
	%	6.5	29.7	22.0	17.4
COLUMN TOTAL		124	91	50	265
		46.8	34.3	18.9	100.0

In Table 17, looking at the responses in the same manner as above, 1988 graduates reported in the following way: 75% would repeat the academic curriculum; 63.6% would repeat the vocational; and 44.9% would repeat the general curriculum. The Chi-Square value of 55.13910 with 8 degrees of freedom implies a high confidence that the Null Hypothesis can be rejected for this last group also.

Overall for the three years, a total of 59.6% of all respondents would definitely/probably take the same curriculum as they had chosen in 9th grade. Again for the three years in question, 63.5% of females; 55.1% of males; 54.4% regular; 82.0% CAS/scholars; 67.9% of the special education group; 60.5% postsecondary completers; and 56.2% postsecondary drop-outs would likely repeat their chosen curriculum. One important trend through time that developed, was the substantial increase in those expressing a desire to repeat their vocational program. It almost doubles from 1982 to 1985, and is almost 15% higher when comparing 1985 to 1988.

An ancillary question was posed to the respondents which asked what courses, if any, the graduates wished they could have taken more of, during their secondary experience. Table 18 summarized the data for the courses listed by the program (curriculum) the student was in during high school. Looking at the highest three ranked courses across all programs (column per cent), math is first for all groups, and science is second for all groups. However, these similiarities end with the third highest ranked choice:

TABLE 17

DATA TABLE (3 X 3 X 5) on
HIGH SCHOOL GRADUATE WILLINGNESS TO REPEAT CHOSEN CURRICULUM
(Academic, Vocational, General) for
1988 GRADUATES

		ACADEMIC	GENERAL	VOCATIONAL	TOTAL
1988					
Certainly would repeat	n	160	26	48	234
	%	49.8	22.0	44.9	42.9
Probably would repeat	n	81	27	20	128
	%	25.2	22.9	18.7	23.4
Chances are about even	n	12	16	2	30
	%	3.7	13.6	1.9	5.5
Probably would not repeat	n	44	26	27	97
	%	13.7	22.0	25.2	17.8
Certainly would not repeat	n	24	23	10	57
	%	7.5	19.5	9.3	10.4
COLUMN TOTAL		321	118	107	546
		58.8	21.6	19.6	100.0

TABLE 18

COURSE FREQUENCIES BY PROGRAM

COURSES	Count Row Pct Col Pct	PROGRAM ACADEMIC 1	GENERAL 2	VOCATION 3	Row Total
MATH		178 43.3 26.3	156 38.0 30.3	77 18.7 32.9	411 28.8
SCIENCE		126 46.0 18.6	97 35.4 18.8	51 18.6 21.8	274 19.2
SOCIAL STUDIES		46 48.4 6.8	35 36.8 6.8	14 14.7 6.0	95 6.7
ENGLISH		76 42.7 11.2	80 44.9 15.5	22 12.4 9.4	178 12.5
INDUSTRIAL ARTS		30 46.9 4.4	21 32.8 4.1	13 20.3 5.6	64 4.5
VOCATIONAL		58 44.3 8.6	42 32.1 8.2	31 23.7 13.2	131 9.2
MUSIC OR ART		60 70.6 8.9	17 20.0 3.3	8 9.4 3.4	85 6.0
FOREIGN LANGUAGE		89 57.1 13.2	53 34.0 10.3	14 9.0 6.0	156 10.9
HEALTH OR PHYS E		13 41.9 1.9	14 45.2 2.7	4 12.9 1.7	31 2.2
	Column Total	676 47.4	515 36.1	234 16.4	1425 100.0

the academic group chose foreign language; the general group chose English; and the vocational group chose vocational. Vocational was ranked sixth in importance for the academic group, and fifth in importance for the general group. The lowest ranked course for all three programs was health or physical education.

Summary

This chapter presented an exposition of the statistical results. To summarize, the results to the questions on secondary expectations of students, what postsecondary options they chose and their dropout/completion rates were presented and discussed. The areas of employment history, and the student's geographical mobility were likewise offered for review. All of these results were stratified on the variables of sex, postsecondary dropouts, and whether graduates were regular, disadvantaged, or handicapped. Thus, a comparative analysis of vocational, academic, and general students for the years 1983, 1986, and 1989 was completed and presented.

A local research question was posed and researched along with the above. It was also analyzed, with the results found to be significant, and presented in this chapter.

CHAPTER V

DISCUSSION, IMPLICATIONS AND CONCLUSIONS

Discussion

As was stated, the problem was to answer the questions posed by the PDE in the research guidelines. The study did this, as was demonstrated through the various tables and discussions presented. Additionally, the local research question, through Chi-Square analysis, demonstrated significant results.

The research methodology (with noted exceptions to follow) proved to be properly chosen for the task. The methods and statistical analysis yielded sufficient information to both answer the research questions and stimulate further important inquiry. The section on Further Study will note the exceptions to the methodology. As to the generality of the conclusions, recommendations for programmatic and fiscal operation of the applied technology education effort will be discussed in the Implication and Conclusion sections.

Several points of interest should be discussed presently. First, the economics of collecting the data was justified. The objectives were met within the allocated time periods and were accomplished within the budget constraints. Secondly, the study provided useful data that can be used by those interested in improving and expanding vocational programs. Not only information about and among 1982-1985-1988 graduates, but as a start of a longitudinal data base for further studies. Through the use of information such as collected herein, better guidance can be offered students in their choice of curriculum.

Further Study

In any future investigations, much better collection of Chapter I status must be attained. In a world that seems overloaded with information that appears many times to be pedestrian and easily discarded, it is not hard to see why data is difficult to obtain. What may appear to be needed now and not later, usually ends up being needed always. Chapter I status on our graduates needs to be recorded more permanently.

The importance of better defined guidelines became an issue. For instance, how one should measure employment history, can be taken for whether or not the individual was employed (plus their income history) such as in this study, to any number of alternative measures. Long distance calling provides encounters in "phone tag" which can lead to more frustration than relief. A more formal set of research guidelines could attenuate much of this anxiety.

Implications

The first and most important implication is that funding should remain available for this kind of research. Research that can recommend - both on a specific district level, as well as being generalizable - programmatic improvement. Secondly, the elimination of the general curriculum was supported most ardently by the findings. Through the time period examined, graduates demonstrated a noticeable trend of increasing satisfaction with their vocational program, vis-a-vis their present dispostion, while a trend of decreasing satisfaction with the general track was observed.

The "Un" Forgotten Half - those that aspire and generally succeed at college, demonstrated increased satisfaction with the academic/CAS/Scholars programs in the district.

Recommendations based on these implications would be to maintain a two curriculum system (Academic - Vocational). Who better to point out what works best than those served (or not served) by the system. Another recommendation would be to improve and expand the vocational program to better serve those students who choose this curriculum. Programs that remain stagnant will not survive - more importantly - they will not adequately serve the higher technological requirements of the contemporary workplace. Infusion of applied academics and apprenticeship programs are but two examples of potential improvement of the vocational education effort.

Conclusions

The secondary expectations of the graduates was typical of school districts the size of Pittsburgh. Postsecondary options were likewise typical, where approximately 50% of graduates responded they were in a fulltime education setting, the first year after high school graduation. Postsecondary education/training dropout/completion rates were interesting in that they were fairly equal across all groups. There were no significant differences in relevant numbers discerned with males or females; whether graduates were in the academic, vocational or general curriculum; or even the year of graduation.

There were no unusual trends observed in the income reported for the first year after graduation. Geographical mobility the first year after high school graduation, meant remaining in the Pittsburgh area - except those of the CAS/Scholars group who attended school out of the area.

Regarding the local research question, growth and improvement in the vocational delivery system is fiscally warranted, as graduate satisfaction with career attainment to date is quite high.

APPENDIX A

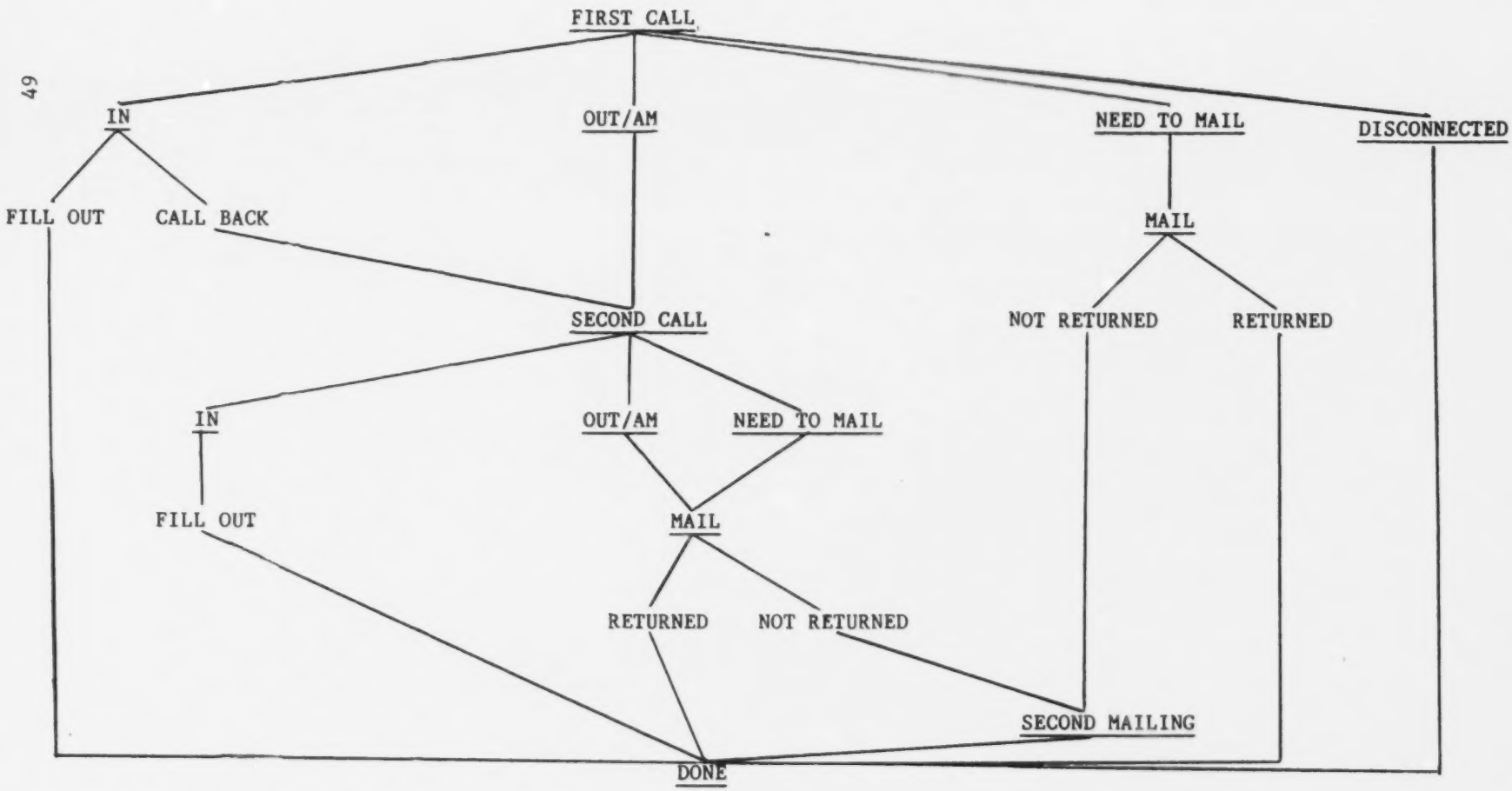
APPENDIX A

ATTACHMENT A: PROPOSED DATA TABLE (3 X 3 X 5) ON HIGH SCHOOL GRADUATE WILLINGNESS TO REPEAT CHOSEN CURRICULUM (ACADEMIC, VOCATIONAL, GENERAL) FOR 1982, 1985, AND 1988 GRADUATES

		Academic	Vocational	General	Total
1982:					
Certainly would repeat	n %				
Propbably would repeat	n %				
Chances are about even	n %				
Probably would not repeat	n %				
Certainly would not repeat	n %				
Total					
1985:					
Certainly would repeat	n %				
Propbably would repeat	n %				
Chances are about even	n %				
Probably would not repeat	n %				
Certainly would not repeat	n %				
Total					
1988:					
Certainly would repeat	n %				
Propbably would repeat	n %				
Chances are about even	n %				
Probably would not repeat	n %				
Certainly would not repeat	n %				
Total					

APPENDIX B

APPENDIX B



1990-91 RESEARCH PROPOSAL: DECISION MAKING MODEL

(AM = ANSWERING MACHINE)

APPENDIX C

APPENDIX C

ATTACHMENT B: TELEPHONE INTERVIEW/QUESTIONNAIRE

Date _____

Respondent name _____

Address _____

_____

Phone number _____

Circle appropriate word/phrase:

(Unable to contact)

Female	Male	
1982	1985	1988
Academic	General	Vocational
Regular	Disadvantaged	Handicapped

What did you do during the first year after graduation?

Employed:	Full-time	Part-time
Education:	Full-time	Part-time
Training:	Full-time	Part-time

Armed Services

Sought employment

Not available for employment

Did you complete your education or training program?

_____Yes _____No

Are you planning to complete some further education or a training program?

_____ Yes _____No _____Undecided at this time

If you were employed during the first year after your high school graduation, did you make:

Below minimum wage

Minimum wage

Above minimum wage $_____

Not applicable

In the first year following graduation, did you remain in:

the Pittsburgh area

Western Pennsylvania

Pennsylvania

outside Pennsylvania _____

or did you leave and then return to Pittsburgh?

Suppose you could go back to 9th grade and start over again; in view of your present knowledge, would you still choose the same (academic - vocational - general) curriculum?

Certainly would repeat

Probably would repeat

Chances are about even

Probably would not repeat

Certainly would not repeat

APPENDIX D

Identification Number ___ ___ ___ ___ ___ ___

1982 PITTSBURGH PUBLIC SCHOOL GRADUATE SURVEY

Please respond to the following statements or questions by drawing a circle around one of the responses below the statement. Your answers should express, to the best of your knowledge, what you remember about your high school experiences, and the year or so immediately following your graduation.

What program were you in:

Academic General Vocational

What did you do during the first year after your graduation:

Employed full-time Employed part-time

Education (leading to a degree) full-time Education part-time

Training (not leading to a degree) full-time Training part-time

Employed full-time and education full-time Employed full-time and education part-time

If you were enrolled in an education or training program did you complete the program?

No Yes Continuing

Are you planning to complete some further education or a training program?

No Yes Undecided

If you were employed during the first year after high school graduation, how much did you make per week?

$ _____

In the first year following graduation, did you remain in (the):

City Allegheny County PA Outside PA

In the second year following graduation, did you remain in (the):

City Allegheny County PA Outside PA

Suppose you could go back to 9th grade and start over again; in view of your present knowledge, would you take the same courses?

Defintely would take the same courses Probably would take the same courses

Chances are about even Probably would not take the same courses

Definitely would not take the same courses

If you could go back to high school and take some additional courses, what would you take?

Mathematics Science Social Studies English Industrial Arts

Vocational Music/Art Foreign Language Health/Physical Education

Please complete the questionnaire and mail in the stamped envelope enclosed. Thank you.

APPENDIX E

APPENDIX E

PITTSBURGH PUBLIC SCHOOLS
Division of Applied Technology and Career Development
850 Boggs Avenue
Pittsburgh, PA 15211

Dear Graduate of the Class of (1982; 1985; 1988):

Please find enclosed a brief questionnaire and a return-addressed stamped envelope. By taking a few minutes to fill out the information requested and mailing it in the enclosed envelope, you will be helping the Pittsburgh Public Schools evaluate their high school programs. It is only with your help that we can make any needed changes, additions or deletions to courses you have taken.

All information collected will be used anonymously. Anyone interested in the results of this follow-up study may contact any of the sponsers listed below by calling 488-2511. Upon completion of the study, those interested will receive the results of this study.

Thank you for your time and cooperation.

Very truly yours,

Dr. William E. Cook, Jr.
Research Coordinator

Mrs. Caryle Rosen
Researcher

APPENDIX F

APPENDIX F

Identification Number ____ ____ ____ ____ ____ ____ MAILING 1 __ 2 __

CALL NUMBER	DATE	TIME	CALL BACK
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	**********

Name _____

Address _____

Phone _____

NCS Number	Question/Information
1 - 6	Identification number
7	Gender (female = 1 male = 2)
8	Program (Academic = 1 General = 2 Vocational = 3)
9	Free lunch (Free = 1 Reduced = 2)
10-11	Special Education Catergory

A = 01	B = 03	C = 06	D = 07	E = 09	F = 12
G = 18	H = 19	I = 22	J = 28	K = 05	L = 30
M = 31	N = 34	P = 02	Q = 37	R = 08	S = 10
T = 13	U = 20	V = 41	W = 32	X = 35	Y = 23
Z = 04	1 = 11	2 = 14	3 = 21	4 = 29	5 = 33
6 = 36	7 = 17	8 = 27	9 = 24	* = 15	& = 25
] = 40	@ = 16	# = 26	> = 38	) = 39	None = 42

12 Chapter 1 Status (No = 0 Yes = 1)

13-14 What did you do during the first year after graduation?

Employed full-time = 01		Employed part-time = 02	
Education full-time = 03		Education part-time = 04	
Training full-time = 05		Training part-time = 06	
01 and 03 = 07	01 and 04 = 08	02 and 03 = 09	02 and 04 = 10
05 and 01 = 11	05 and 02 = 12	06 and 01 =13	06 and 02 = 14
Armed Services = 15		Unemployed = 16	
Not available for employment = 17			

15 Did you complete your education or training program? (No = 0 Yes = 1 Continuing = 2)

16 Are you planning to complete some further education or training program? (No = 0 Yes = 1 Undecided = 2)

17-19 If you were employed during the first year after your high school graduation, how much did you make? ($_____ per week)

20 In the first year following graduation, did you remain in (the):
City = 1 Allegheny County = 2 PA = 3 Outside PA = 4

21 In the second year following graduation, did you remain in (the):
City = 1 Allegheny County = 2 PA = 3 Outside PA = 4

22 Suppose you could go back to 9th grade and start over again; in view of your present knowledge, would you take the same courses?

0 = Definitely would take the same courses 1 = Probably would take the same courses
2 = Chances are about even 3 = Probably would not take the same courses
4 = Definitely would not take the same courses

23-25 If "no" to question 22, what course(s) would you take?

0 = Mathematics	1 = Science	3 = Social Studies	4 = English	5 = Industrial Arts
6 = Vocational	7 = Music/Art	8 = Foreign Language	9 = Health/Physical Education	

APPENDIX G

SIDE 1

GENERAL PURPOSE - NCS® - ANSWER SHEET

SEE IMPORTANT MARKING INSTRUCTIONS ON SIDE 2

NAME (Last, First, M.I.)

SEX: M F

GRADE OR EDUC: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

BIRTH DATE			IDENTIFICATION NUMBER										SPECIAL CODES					
MO.	DAY	YR.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Jan.																		
Feb.																		
Mar.	0 0	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr.	1 1	1 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
May	2 2	2 2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Jun.	3 3	3 3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Jul.	4	4 4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Aug.	5	5 5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Sep.	6	6 6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Oct.	7	7 7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Nov.	8	8 8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Dec.	9	9 9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

	A	B	C	D	E	F	G	H	I	J
1	0	1	2	3	4	5	6	7	8	9
2	0	1	2	3	4	5	6	7	8	9
3	0	1	2	3	4	5	6	7	8	9
4	0	1	2	3	4	5	6	7	8	9
5	0	1	2	3	4	5	6	7	8	9
6	0	1	2	3	4	5	6	7	8	9
7	0	1	2	3	4	5	6	7	8	9
8	0	1	2	3	4	5	6	7	8	9
9	0	1	2	3	4	5	6	7	8	9
10	0	1	2	3	4	5	6	7	8	9
11	0	1	2	3	4	5	6	7	8	9
12	0	1	2	3	4	5	6	7	8	9
13	0	1	2	3	4	5	6	7	8	9
14	0	1	2	3	4	5	6	7	8	9
15	0	1	2	3	4	5	6	7	8	9
16	0	1	2	3	4	5	6	7	8	9
17	0	1	2	3	4	5	6	7	8	9
18	0	1	2	3	4	5	6	7	8	9
19	0	1	2	3	4	5	6	7	8	9
20	0	1	2	3	4	5	6	7	8	9
21	0	1	2	3	4	5	6	7	8	9
22	0	1	2	3	4	5	6	7	8	9
23	0	1	2	3	4	5	6	7	8	9
24	0	1	2	3	4	5	6	7	8	9
25	0	1	2	3	4	5	6	7	8	9
26	0	1	2	3	4	5	6	7	8	9
27	0	1	2	3	4	5	6	7	8	9
28	0	1	2	3	4	5	6	7	8	9
29	0	1	2	3	4	5	6	7	8	9
30	0	1	2	3	4	5	6	7	8	9
31	0	1	2	3	4	5	6	7	8	9
32	0	1	2	3	4	5	6	7	8	9
33	0	1	2	3	4	5	6	7	8	9
34	0	1	2	3	4	5	6	7	8	9
35	0	1	2	3	4	5	6	7	8	9
36	0	1	2	3	4	5	6	7	8	9
37	0	1	2	3	4	5	6	7	8	9
38	0	1	2	3	4	5	6	7	8	9
39	0	1	2	3	4	5	6	7	8	9
40	0	1	2	3	4	5	6	7	8	9
41	0	1	2	3	4	5	6	7	8	9
42	0	1	2	3	4	5	6	7	8	9
43	0	1	2	3	4	5	6	7	8	9
44	0	1	2	3	4	5	6	7	8	9
45	0	1	2	3	4	5	6	7	8	9
46	0	1	2	3	4	5	6	7	8	9
47	0	1	2	3	4	5	6	7	8	9
48	0	1	2	3	4	5	6	7	8	9
49	0	1	2	3	4	5	6	7	8	9
50	0	1	2	3	4	5	6	7	8	9
51	0	1	2	3	4	5	6	7	8	9
52	0	1	2	3	4	5	6	7	8	9
53	0	1	2	3	4	5	6	7	8	9
54	0	1	2	3	4	5	6	7	8	9
55	0	1	2	3	4	5	6	7	8	9
56	0	1	2	3	4	5	6	7	8	9
57	0	1	2	3	4	5	6	7	8	9
58	0	1	2	3	4	5	6	7	8	9
59	0	1	2	3	4	5	6	7	8	9
60	0	1	2	3	4	5	6	7	8	9

SIDE 2

GENERAL PURPOSE NCS® ANSWER SHEET form no. 4887

	A	B	C	D	E	F	G	H	I	J
61	0	1	2	3	4	5	6	7	8	9
62	0	1	2	3	4	5	6	7	8	9
63	0	1	2	3	4	5	6	7	8	9
64	0	1	2	3	4	5	6	7	8	9
65	0	1	2	3	4	5	6	7	8	9
66	0	1	2	3	4	5	6	7	8	9
67	0	1	2	3	4	5	6	7	8	9
68	0	1	2	3	4	5	6	7	8	9
69	0	1	2	3	4	5	6	7	8	9
70	0	1	2	3	4	5	6	7	8	9

	A	B	C	D	E	F	G	H	I	J
71	0	1	2	3	4	5	6	7	8	9
72	0	1	2	3	4	5	6	7	8	9
73	0	1	2	3	4	5	6	7	8	9
74	0	1	2	3	4	5	6	7	8	9
75	0	1	2	3	4	5	6	7	8	9
76	0	1	2	3	4	5	6	7	8	9
77	0	1	2	3	4	5	6	7	8	9
78	0	1	2	3	4	5	6	7	8	9
79	0	1	2	3	4	5	6	7	8	9
80	0	1	2	3	4	5	6	7	8	9

	A	B	C	D	E	F	G	H	I	J
81	0	1	2	3	4	5	6	7	8	9
82	0	1	2	3	4	5	6	7	8	9
83	0	1	2	3	4	5	6	7	8	9
84	0	1	2	3	4	5	6	7	8	9
85	0	1	2	3	4	5	6	7	8	9
86	0	1	2	3	4	5	6	7	8	9
87	0	1	2	3	4	5	6	7	8	9
88	0	1	2	3	4	5	6	7	8	9
89	0	1	2	3	4	5	6	7	8	9
90	0	1	2	3	4	5	6	7	8	9

	A	B	C	D	E	F	G	H	I	J
91	0	1	2	3	4	5	6	7	8	9
92	0	1	2	3	4	5	6	7	8	9
93	0	1	2	3	4	5	6	7	8	9
94	0	1	2	3	4	5	6	7	8	9
95	0	1	2	3	4	5	6	7	8	9
96	0	1	2	3	4	5	6	7	8	9
97	0	1	2	3	4	5	6	7	8	9
98	0	1	2	3	4	5	6	7	8	9
99	0	1	2	3	4	5	6	7	8	9
100	0	1	2	3	4	5	6	7	8	9

	A	B	C	D	E	F	G	H	I	J
101	0	1	2	3	4	5	6	7	8	9
102	0	1	2	3	4	5	6	7	8	9
103	0	1	2	3	4	5	6	7	8	9
104	0	1	2	3	4	5	6	7	8	9
105	0	1	2	3	4	5	6	7	8	9
106	0	1	2	3	4	5	6	7	8	9
107	0	1	2	3	4	5	6	7	8	9
108	0	1	2	3	4	5	6	7	8	9
109	0	1	2	3	4	5	6	7	8	9
110	0	1	2	3	4	5	6	7	8	9

	A	B	C	D	E	F	G	H	I	J
111	0	1	2	3	4	5	6	7	8	9
112	0	1	2	3	4	5	6	7	8	9
113	0	1	2	3	4	5	6	7	8	9
114	0	1	2	3	4	5	6	7	8	9
115	0	1	2	3	4	5	6	7	8	9
116	0	1	2	3	4	5	6	7	8	9
117	0	1	2	3	4	5	6	7	8	9
118	0	1	2	3	4	5	6	7	8	9
119	0	1	2	3	4	5	6	7	8	9
120	0	1	2	3	4	5	6	7	8	9

EXAMPLES

WRONG
1 ① ⊗ ③ ④ ⑤

WRONG
2 ① ② ⊘ ④ ⑤

WRONG
3 ① ② ③ ◕ ⑤

RIGHT
4 ① ② ③ ● ⑤

IMPORTANT DIRECTIONS FOR MARKING ANSWERS

- Use #2 pencil only.
- Do NOT use ink or ballpoint pens.
- Make heavy black marks that fill the circle completely.
- Erase cleanly any answer you wish to change.
- Make no stray marks on the answer sheet.

DO NOT WRITE IN THIS SPACE

NCS Trans-Optic® MP01-4887 585756 Printed in U.S.A. ©, 1977, National Computer Systems, Inc. All rights reserved.

APPENDIX H

NCS Answer Sheet - Side 1

Numbers 1-2: Year graduated
82 85 88

Numbers 3-6: Identification
0001 - 9999

Number 7: Gender
Female = 1 Male = 2

Number 8: Program
Academic = 1 General = 2 Vocational = 3

Number 9: Lunch
Free = 1 Reduced = 2

Numbers 10-11: Special Education Catergory

PROGRAM	FULLTIME	PART	ITENERANT
EMR	01	02	
Gifted (Elem. and Middle)	03	04	
CAS- GIFTED (Secondary)	05		
TMR	06		
SED	07	08	
BRAIN INJURED	09	10	11
HEARING IMPAIRED	12	13	14
DEAF	15	16	17
PHYSICALLY HANDICAPPED	18		
VISION IMPAIRED	19	20	21
DEAF AND BLIND	22	23	24
BLIND	25	26	27
SPEECH, LANGUAGE IMPAIRED	28		29
PMR/SMR	30		
LEARNING DISABILITIES	31	32	33
MIXED CATERGORIES	34	35	36
DEVELOPMENTALLY DELAYED	37	38	39
MULTIPLY HANDICAPPED	40		
SCHOLARS-NON-REIMBURSEABLE	41		

Number 12: Chapter 1 Status
No = 0 Yes = 1

Numbers 13-14: First year after graduation

Employed full-time	01
Employed part-time	02
Education full-time	03
Education part-time	04
Training full-time	05
Training part-time	06
01 and 03	07
01 and 04	08
02 and 03	09
02 and 04	10
05 and 01	11
05 and 02	12
06 and 01	13
06 and 02	14
Armed services	15
Unemployed	16
Not available for employment	17

Number 15: Postsecondary completion
No = 0 Yes = 1

Number 16: Future plans
No = 0 Yes = 1 Undecided at this time = 2

Numbers 17-19: Income
000 - 999 dollars per week

Number 20: Geographic mobility - first yerar
1 = City
2 = Allegheny County
3 = Western Pennsylvania
4 = Outside Pennsylvania

Number 21 = Geographic mobility - second year
- 1 = City
- 2 = Allegheny County
- 3 = Western Pennsylvania
- 4 = Outside Pennsylvania

Number 22 = Local research question
- 0 = Definitely would take the same courses
- 1 = Probably would take the same courses
- 2 = Chances are about even
- 3 = Probably would not take the same courses
- 4 = Definitely woulld not take the same courses

Number 23: What courses
- 0 = Mathematics
- 1 = Science
- 3 = Social Studies
- 4 = English
- 5 = Industrial Arts
- 6 = Vocational
- 7 = Music/Art
- 8 = Foreign Language
- 9 = Health/Physical Education

BIBLIOGRAPHY

BIBLIOGRAPHY

Issac, Stephen and Michael, William B., Handbook in Research and Evaluation, EdAs Publishers, San Diego, California, 1978.

McCall, Chester H., Sampling and Statistics Handbook for Research in Education, National Education Association, Playa Del Ray, California, 1980.

Mitzel, Harold E., Editor in Chief, Encyclopedia of Educational Research, The Free Press, New York, 1982.

Orlich, Donald C., Designing Sensible Surveys, Redgrave Publishing, Pleasantville, New York, 1978.

Tuckman, Bruce W., Conducting Educational Research, Harcourt Brace Jovanovich, New York, 1972.

Wittrock, Merlin C., Editor, Handbook of Research on Teaching, Macmillan, New York, 1986.